Advanced Imaging LADAR

UTAH STATE UNIVERSITY

CENTER

This Center focuses on commercializing three dimensional camera intellectual property based on laser radar (ladar) and digital camera technology. This year the Center succeeded in developing a new 3D camera prototype that is convenient and affordable for field work. It has been licensed and sold to Rappidmapper, Salt Lake City, Utah and has already been used in Japan, Alaska and various other states in the U.S. Unexpectedly, the successful prototype generated interest from NASA for space applications.

TECHNOLOGY

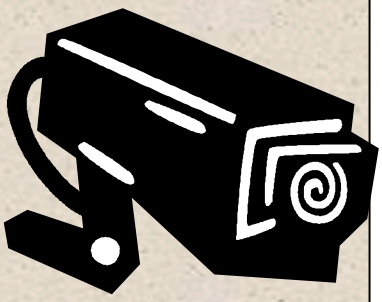
The CAIL technology, called the 3D Texel Camera uniquely combines (1) three-dimensional Laser Detection And Ranging (3D LADAR) technology with 2- dimensional digital photography (2D Imagery). 3D LADAR measures the precise distance to, and shape of, objects or terrain in a scene. 2D imagery records the color (or spectra) of the objects or terrain. CAIL's technology records the looks of a scene and the exact distance to objects in the view. It can take numerous images and integrate them all in real time. The system will be the first in the world to enable precise 3-D color imagery when either the scene or the camera or both are moving.

ACCOMPLISHMENTS

A new patent has been filed entitled "System and Method for Improving Lidar Data Fidelity Using Pixel-Aligned Lidar/Electro-Optic Data". This technology will enable automatic assembly of multiple 3D data sets (pictures) to create one big picture of the scene. The automation will increase the efficiency of use of data produced by the 3D camera prototype. Experimental work has been completed on a small handheld LADAR, this will be integrated into a new smaller 3D camera prototype during FY05-06.

THINK TANK

What if there was...



A way to take a picture and have a true, 3D image of the world? What if we could map the world with such a system?

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